

Application Serial No. 10/607,227  
Amendment dated October 29, 2007  
Reply to Final Office Action dated October 3, 2007

### **REMARKS**

Applicant has filed a Request for Continued Examination (RCE) along with the present Amendment pursuant to 37 C.F.R. §1.114.

Claims 37-80 are pending. No claims have been allowed.

#### **I. Claim rejections – 35 U.S.C. §112, first paragraph.**

The Examiner rejected Claims 37-80 under 35 U.S.C. §112, first paragraph, stating that "...the specification, while being enabled for cleaning a food processing environment, does not reasonably provide enablement for cleaning a surface or an item of equipment". (Office Action dated October 3, 2007, page 2).

Applicant is unclear as to the Examiner's reasoning. In stating that the specification is enabled for cleaning "a food processing environment" but not "a surface" or "item of equipment", the Examiner would appear to reason that the claims are enabled for cleaning surfaces and items of equipment so long as they are in a food processing environment, but that the claims are not enabled for cleaning surfaces and items of equipment that are not in a food processing environment. Further, the Examiner states that "[i]t does not appear to be feasible that any item or surface would function in the present invention" but provides no reasoning or facts for this conclusion. Id.

The test for enablement is whether one of ordinary skill in the art is able to make and use the invention without undue experimentation. In re Wands, 858 F.2d 731, 737 (Fed. Cir. 1988); MPEP § 2164. With respect to the present case, applying the claimed cleaning composition to various surfaces and items of equipment to determine the effectiveness of the composition would be straightforward and simple for one of ordinary skill in the art, and would not require specialized equipment or knowledge.

Applicant submits that one of ordinary skill in the art would know from Applicant's specification that a "food processing environment" is an exemplary application of the claimed cleaning compositions. It is well known that cleaning compositions are generally useful on many different surfaces, for example, U.S. Patent No. 5,739,327 to Arbogast et al. ("Arbogast et al. '327"), applied by the Examiner, lists a number of different applications for its cleaning compositions at col.

11, lines 24-62, including laundry products, hard surface cleaners, spa additives, and cleaners to remove stains on outdoor concrete and stucco.

Applicant respectfully directs the Examiner to the specification of the present application as filed at page 3, lines 19-23, which states that the present cleaning composition may be applied to "surfaces in food processing facilities, such as walls, floors and equipment." Disclosure of the application of the present cleaning composition to surfaces and/or equipment may also be found in the specification as filed at page 1, line 7, at page 2, line 23, and at page 6, lines 6-8 and 17-19, for example. In the Examples on page 6 of the present application, a dry premix may be applied generally to "a surface to be cleaned" (lines 11 and 12) or may be diluted with water "and applied to a surface to be cleaned" (lines 18-20).

Applicant respectfully submits that the claimed cleaning compositions would indeed clean any surface or item of equipment, and are not restricted in application to particular types of surfaces or to particular items of equipment. In particular, the present cleaning composition cleans and disinfects surfaces or items of equipment on contact, regardless of the type of surface or item of equipment, and therefore no undue experimentation would be needed by one of ordinary skill in the art to figure out what types of surfaces or items of equipment may be cleaned with the claimed cleaning compositions.

## **II. Claim rejections – 35 U.S.C. §112, second paragraph.**

The Examiner rejected Claims 47-52, 56, 58, 62-67, 70, and 73-79 under 35 U.S.C. §112, second paragraph, in that certain dependent claims are indefinite because they recite open-ended language but are dependent upon independent claims which recite closed language.

The transitional phrase "consisting essentially of" that is used in the independent claims of the present application is not closed language but rather is partially open-ended language, occupying a middle ground between "comprising" (open) and "consisting of" (closed). *See generally* MPEP §2111.03. In particular, "recital of 'essentially' along with 'consisting of' [is regarded] as rendering the claim open only for the inclusion of unspecified ingredients which do not materially affect the

basic and novel characteristics of the composition." Ex parte Hoffman, 12 U.S.P.Q.2d 1061, 1063 (B.P.A.I. 1989).

In the present application, the additional substances recited in the dependent claims, such as chelants, coupling agents, dyes, and surfactants (*See* Claim 47) are well known as optional chemical adjuncts that, while potentially affecting the physical properties of the claimed cleaning composition, would not affect the active chemistry of the peroxide and the alkaline components.

Arbogast et al. '327, for example, discloses a number of chemical "adjuncts" at col. 9, line 63 through col. 11, line 20 thereof, such as dyes, chelants, etc., that may optionally be included in the disclosed cleaning compositions but which would not affect the operation of the nitrile bleach activators that are disclosed as the novel element. U.S. Patent No. 6,391,840 to Thompson et al. ("Thompson et al. '840"), also applied by the Examiner, lists numerous optional chemical additives at col. 8, line 63 through col. 12, line 6, such as thickeners, surfactants, etc.

For the foregoing reasons, Applicant submits that Claims 47-52, 56, 58, 62-67, 70, and 73-79 are not indefinite under 35 U.S.C. §112, second paragraph.

### **III. Art Rejections.**

Responsive to the art rejections set forth by the Examiner, submitted herewith is the Declaration of the inventor and Applicant in the present application, Mr. William E. Spindler, under 35 U.S.C. §1.132 ("the Spindler Declaration"). The Spindler Declaration explains how certain chemical elements that are disclosed in the references applied by the Examiner are properly excluded by the phrase "consisting essentially of" in independent Claims 37, 57, and 71, because the inclusion of such elements would "materially affect the basic and novel characteristics of the composition." Ex parte Hoffman, 12 U.S.P.Q.2d at 1063.

In particular, the chemical elements discussed in the Spindler Declaration that are disclosed in the references applied by the Examiner are not well known chemical adjuncts such as chelants, coupling agents, dyes, and surfactants, etc., of the type discussed above that would not affect the basic and novel chemistry of the claimed invention and therefore are encompassed by the "consisting essentially of" language of the claims.

Rather, in accordance with test of Ex parte Hoffman, the chemical elements discussed in the Spindler Declaration that are disclosed in the references applied by the Examiner are "active" chemical species that, if present, would react with the claimed peroxide and/or alkaline components and would affect the basic and novel chemistry of the peroxide and/or the alkaline components.

**A. Claim rejections - 35 U.S.C. §102(b), U.S. Patent No. 5,739,327 to Arbogast et al.**

The Examiner rejected Claims 37-51, 53-66, 68-77 and 79 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,739,327 to Arbogast et al. ("Arbogast et al. '327").

As set forth in the Spindler Declaration, Arbogast et al. '327 discloses bleaching compositions which include (1) an active oxygen source, such as a peroxide of the type listed at col. 6, lines 45-52, and (2) a nitrile activator of the type set forth at col. 3, line 56 through col. 5, line 40. As discussed at col. 5, lines 30-40, when the peroxide and the nitrile activator are combined in alkaline conditions, they react to form peroxyimidic intermediates. The peroxyimidic intermediates in turn form peroxyimidic acid, which is the bleaching species. As discussed at col. 9, lines 17-42, in one embodiment, a dual delivery system may be provided in which one container includes the nitrile activator, a surfactant, the active oxygen source, and an acidic buffer, and another container includes an alkaline solution.

Amended independent Claim 37 calls for a method of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit including a first container consisting essentially of a peroxide, and a second container consisting essentially of an alkaline component; and applying the peroxide and the alkaline components of the first and second containers to at least one of the surface and the item of equipment to clean and disinfect the surface or item of equipment.

Amended independent Claim 57 calls for a method of cleaning and disinfecting a surface or an item of equipment, including the step of providing a cleaning composition in dry form, consisting essentially of a peroxide and an alkaline component, and amended independent Claim 71 calls for a method of cleaning and disinfecting a surface or an item of equipment, including the step of

providing a cleaning composition in dry form, the cleaning composition consisting essentially of a peroxide.

Arbogast et al. '327 fails to disclose a cleaning composition consisting essentially of a peroxide and an alkaline component, as called for in Claims 37 and 57, or a cleaning composition consisting essentially of a peroxide, as called for in Claim 71. In particular, the nitrile activator of the bleaching compositions disclosed in Arbogast et al. '327 is properly excluded by the transitional phrases "consisting essentially of" in independent Claims 37, 57, and 71.

As discussed in the Spindler Declaration, the nitrile activators of the bleaching compositions of Arbogast et al. '327, which are also known in the art as "bleaching activators", react with the active oxygen source in alkaline conditions to form peroxyimidic intermediates which in turn form peroxyimidic acid. The peroxyimidic acid, a peracid, is a potent oxidant and is the actual bleaching species. Attached to the Spindler Declaration as **Exhibits 1 and 2** are, respectively, a web page from *www.scienceinthebox.com* and Lim, S-H et al., *Performance of a new cationic bleach activator on a hydrogen peroxide bleaching system*, (2004), which each discuss the role of bleach activators in reacting with peroxides in alkaline conditions to generate peracids, potent oxidants that are the actual bleaching species.

As set forth in the Spindler Declaration, in contrast to the bleaching compositions of Arbogast et al. '327, which include a nitrile activator that reacts with an active oxygen source in alkaline conditions to generate a peracid that is the bleaching species, the cleaning compositions of independent Claims 37, 57, and 71 lack nitrile or other "bleaching activators", but rather clean and disinfect based on the release of oxygen by the peroxide.

Thus, Arbogast et al. '327 fails to disclose cleaning compositions consisting essentially of a peroxide and an alkaline component, as called for in Claims 37 and 57, or a cleaning composition consisting essentially of a peroxide, as called for in Claim 71, and one of ordinary skill in the art, in considering the overall teachings of Arbogast et al. '327 with no knowledge of the presently claimed invention, would have no incentive or motivation to modify the cleaning compositions of Arbogast et al. '327 to form a cleaning composition which does not include the nitrile activator disclosed in Arbogast et al. '327.

Also, the peroxide and detergent compositions used for comparative purposes in Examples 4 and 5 of Arbogast et al. '327 (*See* Tables 6 and 7, col. 17, line 55 and col. 18, line 40, respectively) are single phase aqueous solutions of peroxide and detergent, and therefore are not a *method* of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit in including a first container consisting essentially of a peroxide, and a second container consisting essentially of an alkaline component; and applying the peroxide and the alkaline components of the first and second containers to at least one of the surface and the item of equipment to clean and disinfect the surface or item of equipment, as called for in Claim 37, or a cleaning composition provided in dry form, as called for in Claims 57 and 71.

Thus, Applicant respectfully submits that independent Claims 37, 57, and 71, as well as the claims which depend therefrom, are not anticipated by, nor obvious in view of, Arbogast et al. '327.

**Claim rejections - 35 U.S.C. §102(b), U.S. Patent No. 5,743,514 to Rees.**

The Examiner rejected Claims 37-47 and 53-55 as being anticipated by U.S. Patent No. 5,743,514 to Rees ("Rees '514").

As set forth in the Spindler Declaration, Rees '514 discloses a bleaching solution including (1) a peroxide, such as hydrogen peroxide, (2) an alkaline agent, such as an alkaline metal carbonate, and (3) a lactone of the type set forth at col. 4, line 41 through col. 5, line 6. The disclosure states that "the lactones employed in the inventive solution enhance the bleaching rate of hydrogen peroxide by formation of a peroxyacid of the ring opened lactone in a neutral to alkaline environment" which enhances "the bleaching rate of the inventive solution compared to a similar alkaline solution of hydrogen peroxide without the lactone". Notably, as discussed at col. 5, lines 23-37, the lactone and the peroxide are both more stable under acidic conditions such that the bleaching solution may be provided in two vessels, in which a first vessel includes the lactone and the peroxide, and a second vessel includes at least one alkaline agent (col. 6, lines 11-29).

Rees '514 fails to disclose a method of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit including a first container consisting essentially of a peroxide and a second container consisting essentially of an alkaline component, and applying the peroxide and alkaline component of the first and second containers to at least one

surface or the item of equipment to clean and disinfect the surface or item of equipment, as called for in independent Claim 37. In particular, the lactones of the bleaching solutions of Rees '514 are properly excluded by the translational phrase "consisting essentially of" in independent Claim 37.

As discussed above, the lactone in the bleaching solutions of Rees '514 forms a peroxyacid of the ring opened lactone in a neutral to alkaline environment.

As set forth in the Spindler Declaration, in contrast to the bleaching solutions of Rees '514, the cleaning composition claimed in independent Claim 37 is based on a peroxide and an alkaline component which do not include a lactone, but rather clean and disinfect based on the release of oxygen by the peroxide.

Thus, Rees '514 fails to disclose cleaning compositions consisting essentially of a peroxide and an alkaline component, as called for in Claim 37, and one of ordinary skill in the art, in considering the overall teachings of Rees '514 with no knowledge of the presently claimed invention, would have no incentive or motivation to modify the bleaching solutions of Rees '514 to form a cleaning composition which does not include the lactone disclosed in Rees '514.

The sodium bicarbonate/peroxide aqueous solutions used for comparative purposes in Comparative Examples 1 and 2 (col. 7, line 65 through col. 8, line 2 and col. 8, lines 36-39) of Rees '514 are single phase aqueous solutions and therefore not a *method* of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit in including a first container consisting essentially of a peroxide, and a second container consisting essentially of an alkaline component; and applying the peroxide and the alkaline components of the first and second containers to at least one of the surface and the item of equipment to clean and disinfect the surface or item of equipment, as called for in Claim 37.

Thus, Applicant respectfully submits that independent Claims 37, as well as the claims which depend therefrom, are not anticipated by, nor obvious in view of, Rees '514.

**Claim rejections - 35 U.S.C. §102(b), U.S. Patent No. 6,391,840 to Thompson et al.**

The Examiner rejected Claims 37-51 and 53-56 as being anticipated by U.S. Patent No. 6,391,840 to Thompson et al. ("Thompson et al. '840").

As set forth in the Spindler Declaration, Thompson et al. '840 discloses bleaching compositions which may include two partial compositions, one of which containing an alkaline pH adjusting compound, and the other containing a peroxide and a bleach activator. Suitable peroxides, or "peroxygen bleach compounds", are set forth at col. 5, lines 39-67, and suitable bleach activator compounds, such as imines and oxaziridines, are set forth at col. 6, line 1 through col. 8, line 54.

Similar to Arbogast et al. '327, discussed above, Thompson et al. '840 fails to disclose a method of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit including a first container consisting essentially of a peroxide and a second container consisting essentially of an alkaline component, and applying the peroxide and alkaline component of the first and second containers to at least one surface or the item of equipment to clean and disinfect the surface or item of equipment, as called for in independent Claim 37. In particular, the bleach activators of the bleaching compositions of Thompson et al. '840 are properly excluded by the translational phrase "consisting essentially of" in independent Claim 37.

Similar to Arbogast et al. '327, discussed above, the bleach activators in the bleaching compositions of Thompson et al. '840 react with the peroxide in alkaline conditions to form a peracid which is the actual bleaching species (*See Exhibits 2 and 1* of the Spindler Declaration).

As set forth in the Spindler Declaration, in contrast to the bleaching solutions of Thompson et al. '840, the cleaning composition claimed in independent Claim 37 is based on a peroxide and an alkaline component which do not include a bleach activator to generate peracids, but rather clean and disinfect based on the release of oxygen by the peroxide.

Thus, Thompson et al. '840 fails to disclose cleaning compositions consisting essentially of a peroxide and an alkaline component, as called for in Claim 37, and one of ordinary skill in the art, in considering the overall teachings of Thompson et al. '840 with no knowledge of the presently claimed invention, would have no incentive or motivation to modify the bleaching solutions of Thompson et al. '840 to form a cleaning composition which does not include the bleach activators disclosed in Thompson et al. '840.



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Thus, Applicant respectfully submits that independent Claim 37, as well as the claims which depend therefrom, are not anticipated by, nor obvious in view of, Thompson et al. '840.

**Claim rejections - 35 U.S.C. §103.**

The Examiner rejected Claims 52, 67, 78, and 80 under 35 U.S.C. §103(a) as being obvious in view of Arbogast et al. '327, and rejected Claim 52 as being obvious over Thompson et al. '840.

Applicant submits that, because independent Claims 37, 57, and 71 are not anticipated by, nor are obvious in view of, Arbogast et al. '327 or Thompson et al. '840, Claims 52, 67, and 78 which depend therefrom, respectively, are also not anticipated by, nor are obvious in view of, Arbogast et al. '327 or Thompson et al. '840.

**Conclusion.**

It is believed that the above represents a complete response to the Official Action and reconsideration is requested. Specifically, Applicant respectfully submits that the application is in condition for allowance and respectfully requests allowance thereof.


In the event Applicant has overlooked the need for an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby petitions therefore and authorizes that any charges be made to Deposit Account No. 02-0385, Baker & Daniels.

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Should the Examiner have any further questions regarding any of the foregoing, the Examiner is respectfully invited to telephone the undersigned at (260) 424-8000.

Respectfully submitted,

  
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CERTIFICATION OF FILING

I hereby certify that this correspondence is being  
electronically filed, on: October 29, 2007

ADAM F. COX, REG. NO. 46,644

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